



Viewpoint

Physics for the third world

Much more than the European public, the nations of the third world look to science and technology as the key to economic and social development. Since physics-based technologies contribute so much to the prosperity of developed countries, rapid improvement of physics in the third world should now be a central concern of physicists and their institutions everywhere. In the article on the *World Plan of Action*, it is proposed by a UN Advisory Committee that the governments in developed countries should increase their research and development budgets by 5% — to be devoted to science relevant to third world problems. Such a directed increase would only bring results if scientists in developed countries were prepared to accept social responsibility for their colleagues from developing countries. Of course, there are already many links by which physicists from developing countries train in the academic centres of Europe. However, if these physicists return to their countries of origin (and many do not), they are in danger of isolation, unless their European colleagues deliberately maintain contact. Further physics centres in Europe might well consider the model of the Fellowship scheme for senior physicists which operates at the International Centre for Theoretical Physics at Trieste. Although such a scheme of short visits in five successive years might not seem appropriate for experimental physics, personal exchanges would inevitably lead to better contacts when the Fellows went back to their own laboratories. Through such schemes, European physicists and institutions could be led to respond to the challenge of work for developing countries, especially if the many interesting physics problems related to third world development could be tackled with adequate and appropriate facilities.

World Plan of Action for the application of science and technology for developing countries

Nothing less than accelerated world development through the application of science and technology was the goal set by the United Nations in the *World Plan of Action*¹, published in 1971. This thought-provoking and comprehensive programme of concerted action, at the national and international level, was the main result of six years' work by the UN Advisory Committee on the Application of Science and Technology to Development. The UN Advisory Committee maintains that two requirements need to be fulfilled before the *World Plan of Action* can be successfully implemented :

- (a) the full backing of the United Nations machinery, international agencies and national governments to promote and finance the activities ;
- (b) the mobilization of the international scientific community to effect the proposals.

With the recent welcome given to the *World Plan of Action* by the principal organ of the United Nations in this field, the Economic and Social Council, the first requirement is well on the way to being met. So, the UN Advisory Committee is increasingly turning its attention to the motivation and orientation of individual scientists towards carrying out the programmes.

To quote the *World Plan of Action* (page 49) :

'The potential contribution of the international scientific community through governmental organizations and in the freer atmosphere of universities and research institutes should also be emphasized. The United Nations has made all too little progress towards mobilizing the interest and support of the universities and centres of learning, or of the main body of scientists throughout the world. Yet the world scientific community constitutes a valuable fund of idealism and brainpower, which can make a great contribution to world development and, indeed, to world peace, provided that ways can

be found of offering scientists opportunities for practical participation in the Second United Nations Development Decade.'

Background

The *World Plan of Action* is based upon the following premises (page 45) :

(a) The scientific approach offers the best hope for assisting the developing nations to speed up the process of their all-round development ;

(b) This hope can only be fulfilled if the investment of resources in scientific and technological research and application is undertaken in a spirit of true co-operation, with due regard to the differences in the circumstances of different countries, and on a sufficiently large scale. In each country, it must be based on a national science policy ;

(c) The growing gap between developed and developing countries in the amount of research and application and in their levels of technology is one of the major factors in the increasing discrepancy in living standards ;

(d) The process of world development consists partly (but not wholly) in bringing about a wider sharing of its benefits not only through trade and aid but also through the transfer of modern technology to the developing countries ;

(e) Obstacles hinder this transfer to the developing countries. They derive from the absence of an adequate international system for the selection and flow of scientific and technical information to developing countries ; they also raise specific problems

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